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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/235,062	01/20/1999	JEFFREY L. SCHIFFER	42390.P6280	5229

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CYNTHIA THOMAS FAATZ
BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BLVD
7TH FLOOR
LOS ANGELES, CA 90025

EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 01/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/235,062

Applicant(s)

Shiffer

Examiner

Joy Contee

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 23, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-6, 8-15, 18, and 19 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 8-15, 18, and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2681

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed October 23, 2002 have been fully considered but they are not persuasive.

Applicant argues that Ogino does not teach or suggest a ground plane that is directly connected to an antenna and electrically connected to shielding by a direct solder connection. Examiner disagrees. Referencing Fig. 3, Ogino discloses an antenna element (42) which is *directly* mounted on a multilayered substrate (33), which comprises an uppermost ground plane (41), which is shown directly connected to the antenna element (42) (col. 5, lines 20-23 and col.6, line 1-5). Further, referencing Fig. 2, Ogino further shows the ground planes (41 and 43 which comprise 33) electrically connected to the shielding (i.e., housing portions 31 and 32) (col. 5, lines 32-41 and col. 6, lines 64-66). Ogino discloses inherently that the electrically connected portions of either ground plane 41 and 43, which comprise 33 are to be soldered to the shielding (i.e., 31 and/or 32) (col. 6, line 61 to col. 7, line 4 and lines 30-36 and 64-67).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

Art Unit: 2681

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,3-5,8,9,11-15,18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogino et al. ("Ogino"), U.S. Patent No. 5,668,563.

Regarding claims 1 and 4, Ogino discloses an apparatus comprising an intentional radiator including an antenna (42) and a ground plane (41) directly connected to the antenna, the ground plane to be electrically connected to shielding by a direct solder connection between a portion of a surface of the ground plane and the shielding, the shielding (the housing case 31 & 32, also comprised in the apparatus) includes an opening (49) for the antenna, which is to positioned such that the antenna radiates through the opening and the ground plane at least partially physically block emissions through the opening (col. 7, lines 30-37 and see Fig. 3).

Regarding claims 3 and 5, dependent on claims 1 and 4, respectively, Ogino discloses the apparatus as above further wherein the intentional radiator comprises a multilayer substrate (33) that reads on a printed circuit board with antenna radiating layer (36) and ground layer (41), first and second layers respectively disposed therein (col. 6, lines 1-18).

Regarding claim 8, dependent on claim 4, Ogino discloses the apparatus as above wherein the intentional radiator comprises a frequency conversion circuit (45) that reads on a radio frequency module (col. 7, lines 15-20).

Regarding 9, Ogino discloses a system (GPS antenna 30) comprising and intentional radiator including and antenna (42) and ground plane (41) directly connected to the antenna (col.

Art Unit: 2681

7, lines 30-37); and frequency conversion circuit (45) that reads on a device to be shielded, and shielding and shielding (housing case 31 and 32) enclosing the device to be shielded except for an opening (49), the shielding being coupled to the ground plane (col. 6, lines 64-66), the ground plane being oriented to at least partially physically block emissions through the opening (see Fig. 3).

Regarding 11, dependent on claim 9, Ogino discloses the system wherein the device to be shielded is integrated with the intentional radiator (col. 6, lines 1-18 and Fig. 3).

Regarding claim 12, dependent on claim 9, Ogino discloses the system wherein the intentional radiator includes a multilayer substrate (33) that reads on a printed circuit board with antenna radiating layer (36) and ground layer (41), first and second layers respectively disposed therein (col. 6, lines 1-18).

Regarding claim 13, dependent on claim 9, Ogino discloses the system wherein the intentional radiator comprises a frequency conversion circuit (45) that reads on radio frequency module (col. 7, lines 15-20).

Regarding claim 14 & 15, Ogino discloses the method for integrating components, positioning the antenna through an opening, coupling shielding to ground via electrical (soldering is inherent as a typical means) and/or mechanical connection, directly connecting the ground plane to the antenna; and orienting the ground plane such that it is at least partially physically blocks emissions through the opening in the construction of the structural apparatus and integrated system as described above (col. 6, line 19 - col. 7, line 59).

Art Unit: 2681

Regarding claims 18 & 19, Ogino discloses an apparatus comprising means for shielding (i.e., housing case coupled to ground plane) including an opening for an antenna and a means for coupling the shielding to the ground plane that is oriented to at least partially physically block emissions through the opening, the ground plane being directly connected to the antenna, wherein the means for shielding comprising one of a metallic paint or a metallic enclosure and the coupling means comprises one of a mechanical connector or a soldered connection (i.e., the through-holes and copper etching) (col. 6, line 61- col. 7, line 4 and lines 30-37).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino, in view of Nichols, U.S. Patent No. 5,691,726.

Regarding claims 6 and 10, dependent on claims 4 and 9, respectively. Ogino discloses the limitations of claims 4 and 9. Ogino fails to explicitly mention the apparatus further including a skin covering the opening.

However, in a similar field of endeavor Nichols provides evidence of such.

Art Unit: 2681

Nichols discloses a plastic radome (60) which encloses the microstrip antenna element, printed circuit board and electrical components (col.4 ,lines 51-56 and Fig. 3).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Ogino to include a "system skin" in addition to a housing type of shielding for the purpose of providing separate shielding for the intentional radiator to radiate.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is (703) 308-0149. **PLEASE NOTE THAT THIS APPLICATION HAS BEEN REASSIGNED TO AFOREMENTIONED AND UNDERSIGNED PATENT EXAMINER.**

The Examiner can normally be reached M-F, 5:30 a.m. to 2:00 p.m.

If attempts to reach the Examiner are unsuccessful, her supervisor, Dwayne Bost can be reached on (703)305-4778.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

Art Unit: 2681

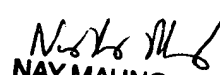
(703) 872-9314 (for formal, informal or draft communications,
please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to
Crystal Park II
Sixth Floor (Receptionist)
2121 Crystal Drive
Arlington, VA



Joy K. Contee

January 9, 2003


NAY MAUNG
PRIMARY EXAMINER